

JAPANESE [JP,3095219,U]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE
INVENTION TECHNICAL PROBLEM MEANS EXAMPLE DESCRIPTION OF DRAWINGS
DRAWINGS

[Translation done.]

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CLAIMS

[Utility model registration claim]

[Claim 1] This case 4 is made into integral construction in the multi-type memory card connector equipped with the case 4. A slot is established in the front end of this case 4, and the width of face of the part of the upper and lower sides of this slot differs. At least two memory card slots are prepared, and the terminal slot by which the spacing array was carried out is established in the wall of a slot. The end of a terminal slot is in front opening or back opening of a case 4, and the terminal activity holes 10, 13, and 16 are formed in another edge of a terminal slot. The location of this terminal activity hole is united with the location of the piece of a memory card metal, and a metal terminal is inserted in each terminal Mizouchi. The multi-type memory card connector which the part located in the terminal activity hole of the end of a metal terminal carries out the gryposis, and has elasticity in a list, and another edge of a metal terminal penetrates out of a case 4, and is characterized by forming the connection pin.

[Claim 2] In a multi-type memory card connector according to claim 1, said slot forms three memory card slots, the A slot 5, the B slot 6, and the C slot 7, downward from a top. The spacing array of the front terminal slot 8 is carried out inside [low wall side] a case 4, and the terminal activity hole 10 is formed in the pars basilaris ossis occipitalis of the front terminal slot 8. It is extended to the opening part of a front end fang furrow, and the upper terminal slot 11 by which the spacing array was carried out, respectively, and the bottom terminal slot 14 are formed inside [wall surface] the upper and lower sides of the back end of a case 4. The terminal activity holes 13 and 16 corresponding to the case side of the upper part of the upper terminal slot 11 and the lower part of the bottom terminal slot 14 are formed in a list. The upper terminal slot 11 and the bottom terminal slot 14 are extended towards back, respectively, and it has opening on the back side attachment wall of a case at a list. The front end child 9 is entrapped in one front terminal slot 8 each, and the end forms the elastic point of contact of a radii form in terminal activity hole 10 part. An end already forms a projection connection pin from a front terminal slot, and the upper limit child 12 is entrapped in one upper terminal slot 11 each. The elastic point of contact bent by the part corresponding to the terminal activity hole 13 of the upper limit child's 12 end is formed. From the posterior wall of stomach of a case, an end is bent by the right angle at a projection and a list, and already forms a connection pin. The lower limit child 15 is entrapped in each Shimo terminal slot 14, and the elastic point of contact bent in terminal activity hole 16 part to which the lower limit child's 15 end is equivalent is formed. The multi-type memory card connector characterized by for an end being bent by the projection list and already forming a connection pin from a case posterior wall of stomach.

[Claim 3] In a multi-type memory card connector according to claim 2, the posterior-wall-of-stomach upper part of said case 4 is extended back, and projection 18 is formed. From the posterior-wall-of-stomach upper part, the upper limit child 12 is bent by the right angle at a projection and a list, and forms the connection pin of a field contact type. The multi-type memory card connector characterized by arranging the lower limit child 15 by 2 train methods which were bent by the right angle at the projection list, and formed the insertion-type connection pin, and the upper limit child pin and the lower limit child pin separated from the posterior-wall-of-stomach lower part.

[Claim 4] The multi-type memory card connector which top faces 19 and 23 are established in the part of the terminal activity holes 13 and 16 with which said upper limit child 12 and lower limit child 15 correspond in a multi-type memory card connector according to claim 2, and is characterized by the end of the upper limit child 12 and the lower limit child 15 being stopped by these top faces 19 and 23.

[Claim 5] The multi-type memory card connector characterized by preparing the connection pin corresponding to the location corresponding to a lock switch of each memory card of the wall of said slot with an elastic switch in a multi-type memory card connector according to claim 1, 2, or 3.

[Claim 6] The multi-type memory card connector to which at least ** combined with the class part of the pars basilaris ossis occipitalis of said slot by the incorrect insertion prevention crevice of a memory card is characterized by preparing a projection in a multi-type memory card connector according to claim 1.

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DETAILED DESCRIPTION

[Detailed explanation of a design]

[0001]

[The technical field to which a design belongs]

This design starts a kind of multi-type memory card connector, and is related with a multi-type memory card connector applicable to R/W of the memory card of the specification from which varieties differ by connecting [equipment / which penetrates this connector for a memory card and write a card reader or a card especially].

[0002]

[Description of the Prior Art]

Although there are a 1.44 inch flexible disk, MO, an optical disk, etc. in the preservation medium which is generally used regularly and which can be written, since [with little memory space] the volume is large, it has stopped already coinciding with the small and light demand of various kinds of present-day hardware, and such a situation is still clearer with spread application of a Personal Digital Assistant (PDA), a digital camera, a notebook computer, etc. especially.

[0003]

In order to make the demand of hardware coincide with in recent years, various kinds of thin small memory cards which can write high capacity have already appeared. For example, there are the SmartMedia (trademark) card, a memory stick card, a secure digital memory card, a multimediacard, etc. Usually, in a memory card, when a user writes or processes [edit] the saved data by computer, generally he uses a card reader (a built-in type or circumscription-type card reader is included), and is connected at a memory card, a computer, or other processing facilities. The card reader which differ, therefore coincides with each memory card specification is required for each specification size of each above-mentioned memory card. Moreover, the memory card gestalt which various kinds of hardware specifies is not in agreement. Therefore, when a user uses the hardware of varieties, for example, a digital camera, an MP3 player, a palmtop type computer, etc. Namely, the card reader of various specification had to be purchased to coincidence, and, for this reason, the memory card and card reader of such varieties formed a user's inconvenience and waste of money.

[0004]

Although the industry offers the card reader with which already prepares four card slots and R/W of the memory card of four kinds of different specification is presented, such structure becomes [become large and / the cost of a card reader] large and has the uneconomical volume of a card reader.

[0005]

[Problem(s) to be Solved by the Device]

For this reason, the volume is small, and the memory card of the specification from which varieties differ can be written, and investment which a user overlaps, and the card reader which can prevent waste are called for. The key point is to offer the connector which can insert the memory card of different size and forms a card reader and electric connection in a list, and such a connector must guarantee the reliability of R/W of a different memory card, and must suit high-speed R/W at a list.

[0006]

The purpose of this design is to offer a kind of multi-type memory card connector, and reading and the card reader which adopts such a connector can write the memory card of the specification from which varieties differ by one set, and its volume is small in a list and makes it convenient to use it at it.

[0007]

[Means for Solving the Problem]

In the multi-type memory card connector which the design of claim 1 equipped with the case 4 This case 4 is made into integral construction, a slot is established in the front end of this case 4, and the width of face of the part of the upper and lower sides of this slot differs. At least two memory card slots are prepared, and the terminal slot by which the spacing array was carried out is established in the wall of a slot. The end of a terminal slot is in front opening or back opening of a case 4, and the terminal activity holes 10, 13, and 16 are formed in another edge of a terminal slot. The location of this terminal activity hole is united with the location of the piece of a memory card metal, and a metal terminal is inserted in each terminal Mizouchi. The part located in the terminal activity hole of the end of a metal terminal carries out the gryposis, and it has elasticity in a list, and another edge of a metal terminal penetrates out of a case 4, and is considering as the multi-type memory card connector characterized by forming the connection pin.

The design of claim 2 is set to a multi-type memory card connector according to claim 1. Said slot forms three memory card slots, the A slot 5, the B slot 6, and the C slot 7, downward from a top. The spacing array of the front terminal slot 8 is carried out inside [low wall side] a case 4, and the terminal activity hole 10 is formed in the pars basilaris ossis occipitalis of the front terminal slot 8. It is extended to the opening part of a front end fang furrow, and the upper terminal slot 11 by which the spacing array was carried out, respectively, and the bottom terminal slot 14 are formed inside [wall surface] the upper and lower sides of the back end of a case 4. The terminal activity holes 13 and 16 corresponding to the case side of the upper part of the upper terminal slot 11 and the lower part of the bottom terminal slot 14 are formed in a list. The upper terminal slot 11 and the bottom terminal slot 14 are extended towards back, respectively, and it has opening on the back side attachment wall of a case at a list. The front end child 9 is entrapped in one front terminal slot 8 each, and the end forms the elastic point of contact of a radii form in terminal activity hole 10 part. An end already forms a projection connection pin from a front terminal slot, and the upper limit child 12 is entrapped in one upper terminal slot 11 each. The elastic point of contact bent by the part corresponding to the terminal activity hole 13 of the upper limit child's 12 end is formed. From the posterior wall of stomach of a case, an end is bent by the right angle at a projection and a list, and already forms a connection pin. The lower limit child 15 is entrapped in each Shimo terminal slot 14, and the elastic point of contact bent in terminal activity hole 16 part to which the lower limit child's 15 end is equivalent is formed. The end is already considering as the multi-type memory card connector characterized by for a projection list bending and forming a connection pin from a case posterior wall of stomach.

The design of claim 3 is set to a multi-type memory card connector according to claim 2. The posterior-wall-of-stomach upper part of said case 4 is extended back, and projection 18 is formed. The upper limit child 12 from the posterior-wall-of-stomach upper part A projection, A right angle bends at a list and form the connection pin of a field contact type, and from the posterior-wall-of-stomach lower part, the lower limit child 15 is bent by the right angle at a projection list, and forms an insertion-type connection pin. It is considering as the multi-type memory card connector characterized by being arranged by 2 train methods which the upper limit child pin and the lower limit child pin separated.

In the multi-type memory card connector according to claim 2, top faces 19 and 23 are established in the part of the terminal activity holes 13 and 16 with which said upper limit child 12 and lower limit child 15 correspond, and the design of claim 4 is taken as the multi-type memory card connector characterized by the end of the upper limit child 12 and the lower limit child 15 being stopped by these top faces 19 and 23.

The design of claim 5 is taken as the multi-type memory card connector characterized by preparing the connection pin corresponding to the location corresponding to a lock switch of each memory card of the wall of said slot with an elastic switch in the multi-type memory card connector according to claim 1, 2, or 3.

The design of claim 6 is taken as the multi-type memory card connector to which at least ** combined with the class part of the pars basilaris ossis occipitalis of said slot by the incorrect insertion prevention crevice of a memory card is characterized by preparing a projection in the multi-type memory card connector according to claim 1.

[0008]

[The gestalt of implementation of a design]

In order to attain the above-mentioned purpose, the technique which this design adopts is as follows. The multi-type memory card connector of this design Have a case, and this case is made into integral construction and a slot is established in the front end of a case. The width of face of the part of the upper and lower sides of this slot differs, and at least two memory card slots are formed. The terminal slot by which the spacing array was carried out is established in the wall of a slot, the end of a terminal slot is in front opening or back opening of a case, a terminal activity hole is prepared in another edge of a terminal slot, and the location of this terminal activity hole is united with the location of the piece of a memory card metal. A metal terminal is inserted in each terminal Mizouchi, the part located in a part for the terminal activity pore of the end of a metal terminal carries out the gryposis, and it has elasticity in a list, and another edge of a metal terminal penetrates out of a case 4, and forms the connection pin.

[0009]

This case is made into a monolithic and it may be formed with plastics, among an above-mentioned technique, each terminal is pressed fit in each terminal Mizouchi, and the class terminal corresponding to the location where the upper and lower sides of a case differ, respectively is prepared based on the difference in the dimension specification of the memory card to apply, and it is connected [memory card / which is inserted] electrically, the upper limit of a terminal being used as an elastic point of contact.

[0010]

Said slot forms three memory card slots downward from a top among an above-mentioned technique. Among those, a secure digital memory card and a multimediacard share one card slot. The spacing array of the front terminal slot is carried out at the case low wall side inside, and a terminal activity hole is prepared in the pars basilaris ossis occipitalis of a front terminal slot. It is extended to the opening part of a front end fang furrow, and the upper terminal slot by which the spacing array was carried out, respectively, and a bottom terminal slot are prepared inside [wall surface] the upper and lower sides of the back end of a case. The terminal activity hole corresponding to the case side of the upper part of an upper terminal slot and the lower part of a bottom terminal slot is prepared in a list, an upper terminal slot and a bottom terminal slot are extended towards back, respectively, and it has opening on the back side attachment wall of a case at a list. A front end child is inserted in one front end each child Mizouchi, the end forms the elastic point of contact of a radii form in a part for a terminal activity pore, and an end already forms a projection connection pin from a front terminal slot. An upper limit child is inserted in one upper limit each child Mizouchi, the elastic point of contact bent by the part corresponding to the terminal activity hole of an upper limit child's end is formed, and from the posterior wall of stomach of a case, an end is bent by the right angle at a projection and a list, and already forms a connection pin. A lower limit child is inserted in each lower limit child Mizouchi, the elastic point of contact bent in a part for the terminal activity pore to which a lower limit child's end corresponds is formed, and from a case posterior wall of stomach, an end is bent by the projection list and already forms a connection pin.

[0011]

As a technique for a pin gap to be too near and not form [separate a connection pin, and] manufacture problems, such as a short circuit The posterior-wall-of-stomach upper part of an above-mentioned case is extended back, and it considers as the letter of a projection. An upper limit child from the posterior-wall-of-stomach upper part A projection, A right angle bends at a

list, the connection pin of a field contact type is formed, and a lower limit child is arranged by 2 train methods which were bent by the right angle at the projection list, and formed the insertion-type connection pin, and the upper limit child pin and the lower limit child pin separated from the posterior-wall-of-stomach lower part.

[0012]

A top face is established in the part of the terminal activity hole with which said upper limit child and lower limit child correspond among an above-mentioned technique, and the end of an upper limit child and a lower limit child is stopped by this top face.

The connection pin corresponding to the location corresponding to a lock switch of each memory card of the wall of said slot with an elastic switch is prepared among the above-mentioned technique.

A projection is prepared at least for ** combined with the class part of the pars basilaris ossis occipitalis of the above-mentioned slot by the incorrect insertion prevention crevice of a memory card.

[0013]

[Example]

Example 1: Please refer to drawing 10 from drawing 1. The multi-type memory card connector of this design is equipped with a case 4, this case 4 is made into the integral construction formed with plastics, and the slot is established in the front end of this case 4. The width of face of the part of the upper and lower sides of this slot differs, three memory card slots are formed, and it turns it down the A slot 5, the B slot 6, and the C slot 7 from a top, respectively. Two or more front terminal slots 8 by which the spacing array was carried out are established in the low wall presence edge of a case 4, and the terminal activity hole 10 is established by the pars basilaris ossis occipitalis of the front terminal slot 8. The upper terminal slot 11 by which the spacing array was carried out, respectively, and the bottom terminal slot 14 are established in the internal surface of the upper and lower sides of the case 4 back end, and the terminal activity holes 13 and 16 corresponding to the case side of the upper part of the upper terminal slot 11 and the lower part of the bottom terminal slot 14 are formed in the list. A top face 19 is established in these terminal activity holes 13 and 16, the upper terminal slot 11 and the bottom terminal slot 14 are extended back, respectively, and it has opening on the back side attachment wall of a case 4 at a list. The elastic switch connection pin slot is established in the location corresponding to each memory card R/W control section of the both sides of the slot of a case 4, respectively.

[0014]

The front end child 9 is entrapped in each forward terminal slot 8, the end forms the elastic point of contact of a radii form in terminal activity hole 10 part, and the end already forms the projection and the connection pin from the front terminal slot 8. The upper limit child 12 is entrapped in each up terminal slot 11, the elastic point of contact bent by the part corresponding to the terminal activity hole 13 of the upper limit child's 12 end is formed, an end is bent by the right angle from case 4 posterior wall of stomach at a projection and a list, and the connection pin is already formed. the upper limit child 12 is used for connection of the SmartMedia (trademark) card 1, and, thereby, the upper limit child 12 divides him into two kinds of merits and demerits corresponding to the metal pin of two trains of this card — having — mutual — alienation — it is arranged. The lower limit child 15 is entrapped in each Shimo terminal slot 14, the part corresponding to the terminal activity hole 16 of the lower limit child's 15 end is bent, and an elastic point of contact is formed. An end is already bent by a projection and the list from case 4 posterior wall of stomach, a connection pin is formed, top faces 19 and 23 are formed in the part of the terminal activity holes 13 and 16 corresponding to the upper limit child 12 and the lower limit child 15, and the end of the upper limit child 12 and the lower limit child 15 is stopped by these top faces 19 and 23, respectively. The elastic switch connection pins 17 and 20 and the elastic contact segment 21 are inserted in, respectively, and two elastic switch connection pins 17 form the switch of a lot in Mizouchi of the both sides of a case 4, make him push the elastic piece corresponding to the time of memory card insertion, contact him at another connection pin, and, thereby, are made to close a switch.

[0015]

Among this example, the posterior-wall-of-stomach upper part of the above-mentioned case 4 is extended back, and is made into the letter of a projection. The above-mentioned upper limit child 12 is bent by the right angle from the posterior-wall-of-stomach upper part at a projection and a list, and the connection pin of a field contact type is formed. The above-mentioned lower limit child 15 is arranged by the method of two trains which the right angle bent at the projection and the list, the insertion-type connection pin was formed, and the upper limit child pin and the lower limit child pin separated from the posterior-wall-of-stomach lower part. By this The pin of a triplex row is formed corresponding to a different memory card, and the pin of the front end child 9 and the upper limit child 12 is made into the articulated structure of the piece type of contact, and the lower limit child's 15 pin is located inside an upper limit child pin, and let it be the articulated structure of an insertion type.

[0016]

According to the crevice of reverse insertion prevention of a memory card, the projection is prepared at least for ** in the class part of the pars basilaris ossis occipitalis of an above-mentioned slot.

[0017]

As shown in drawing 9 and drawing 10, after the SmartMedia (trademark) card 1 was inserted in the A slot 5 of a case 4 and was positioned, The elastic point of contact of a metal side and the upper limit child 12 when this SmartMedia (trademark) card 1 is written contacts. The elastic switch connection pin 20 by which a side edge corresponds is contacted, it flows, the elastic contact segment 21 of case 4 top face and the annular metal of the SmartMedia (trademark) card 1 contact coincidence, and R/W is performed. Moreover, insertion of the memory stick card 3 and R/W are presented with the B slot 6 of a case 4, the R/W edge of the memory stick card 3 after insertion contacts the lower limit child's 15 elastic point of contact, and R/W is presented with it. Moreover, insertion of the secure digital card 2 or a multimediacard 22 and R/W are presented, and the front end child's 9 elastic point of contact contacts the R/W metal side of the secure digital card 2 or a multimediacard 22 at the time of insertion, and the side edge of the secure digital card 2 presses the elastic switch connection pin 17, and reading and the C slot 7 write by carrying out the contact flow of the R/W switch. When the incorrect write-in prevention switch of the secure digital card 2 writes in and it is in a prevention location, even if it dents the side edge of elastic switch connection pin 17 corresponding part and the secure digital card 2 is inserted at this time, an elastic switch connection pin is not open for free passage, and is in a write-in prevention condition.

[0018]

[Effect of the Device]

This design has the following advantages as compared with the existing technique.

1. This design is composed with the metal terminal really inserted in terminal Mizouchi of the case of shaping, and a case, it is easy structure, is convenient to manufacture, and can save human power and cost.
2. It is in one case, two or more slots are formed by change of the width of face of adjacent space, the memory card of the specification from which varieties differ can be written, and thereby, the volume of this design is small, and they can write the memory card of varieties and has the advantage on convenient use. [reading and]
3. The connection pin of the terminal of this design can carry out two or more trains arrangement by the difference in a location, has a distance suitable between pins by this, can prevent generating of a short circuit, and can lower the rate of failure of soldering at the time of use.

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TECHNICAL FIELD

[The technical field to which a design belongs]

This design starts a kind of multi-type memory card connector, and is related with a multi-type memory card connector applicable to R/W of the memory card of the specification from which varieties differ by connecting [equipment / which penetrates this connector for a memory card and write a card reader or a card especially].

[0002]

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PRIOR ART

[Description of the Prior Art]

Although there are a 1.44 inch flexible disk, MO, an optical disk, etc. in the preservation medium which is generally used regularly and which can be written, since [with little memory space] the volume is large, it has stopped already coinciding with the small and light demand of various kinds of present-day hardware, and such a situation is still clearer with spread application of a Personal Digital Assistant (PDA), a digital camera, a notebook computer, etc. especially.

[0003]

In order to make the demand of hardware coincide with in recent years, various kinds of thin small memory cards which can write high capacity have already appeared. For example, there are the SmartMedia (trademark) card, a memory stick card, a secure digital memory card, a multimediacard, etc. Usually, in a memory card, when a user writes or processes [edit] the saved data by computer, generally he uses a card reader (a built-in type or circumscription-type card reader is included), and is connected at a memory card, a computer, or other processing facilities. The card reader which differ, therefore coincides with each memory card specification is required for each specification size of each above-mentioned memory card. Moreover, the memory card gestalt which various kinds of hardware specifies is not in agreement. Therefore, when a user uses the hardware of varieties, for example, a digital camera, an MP3 player, a palmtop type computer, etc. Namely, the card reader of various specification had to be purchased to coincidence, and, for this reason, the memory card and card reader of such varieties formed a user's inconvenience and waste of money.

[0004]

Although the industry offers the card reader with which already prepares four card slots and R/W of the memory card of four kinds of different specification is presented, such structure becomes [become large and / the cost of a card reader] large and has the uneconomical volume of a card reader.

[0005]

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EFFECT OF THE INVENTION

[Effect of the Device]

This design has the following advantages as compared with the existing technique.

1. This design is composed with the metal terminal really inserted in terminal Mizouchi of the case of shaping, and a case, it is easy structure, is convenient to manufacture, and can save human power and cost.
2. It is in one case, two or more slots are formed by change of the width of face of adjacent space, the memory card of the specification from which varieties differ can be written, and thereby, the volume of this design is small, and they can write the memory card of varieties and has the advantage on convenient use. [reading and]
3. The connection pin of the terminal of this design can carry out two or more trains arrangement by the difference in a location, has a distance suitable between pins by this, can prevent generating of a short circuit, and can lower the rate of failure of soldering at the time of use.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Device]

For this reason, the volume is small, and the memory card of the specification from which varieties differ can be written, and investment which a user overlaps, and the card reader which can prevent waste are called for. The key point is to offer the connector which can insert the memory card of different size and forms a card reader and electric connection in a list, and such a connector must guarantee the reliability of R/W of a different memory card, and must suit high-speed R/W at a list.

[0006]

The purpose of this design is to offer a kind of multi-type memory card connector, and reading and the card reader which adopts such a connector can write the memory card of the specification from which varieties differ by one set, and its volume is small in a list and makes it convenient to use it at it.

[0007]

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MEANS

[Means for Solving the Problem]

In the multi-type memory card connector which the design of claim 1 equipped with the case 4 This case 4 is made into integral construction, a slot is established in the front end of this case 4, and the width of face of the part of the upper and lower sides of this slot differs. At least two memory card slots are prepared, and the terminal slot by which the spacing array was carried out is established in the wall of a slot. The end of a terminal slot is in front opening or back opening of a case 4, and the terminal activity holes 10, 13, and 16 are formed in another edge of a terminal slot. The location of this terminal activity hole is united with the location of the piece of a memory card metal, and a metal terminal is inserted in each terminal Mizouchi. The part located in the terminal activity hole of the end of a metal terminal carries out the gryposis, and it has elasticity in a list, and another edge of a metal terminal penetrates out of a case 4, and is considering as the multi-type memory card connector characterized by forming the connection pin.

The design of claim 2 is set to a multi-type memory card connector according to claim 1. Said slot forms three memory card slots, the A slot 5, the B slot 6, and the C slot 7, downward from a top. The spacing array of the front terminal slot 8 is carried out inside [low wall side] a case 4, and the terminal activity hole 10 is formed in the pars basilaris ossis occipitalis of the front terminal slot 8. It is extended to the opening part of a front end fang furrow, and the upper terminal slot 11 by which the spacing array was carried out, respectively, and the bottom terminal slot 14 are formed inside [wall surface] the upper and lower sides of the back end of a case 4. The terminal activity holes 13 and 16 corresponding to the case side of the upper part of the upper terminal slot 11 and the lower part of the bottom terminal slot 14 are formed in a list. The upper terminal slot 11 and the bottom terminal slot 14 are extended towards back, respectively, and it has opening on the back side attachment wall of a case at a list. The front end child 9 is entrapped in one front terminal slot 8 each, and the end forms the elastic point of contact of a radii form in terminal activity hole 10 part. An end already forms a projection connection pin from a front terminal slot, and the upper limit child 12 is entrapped in one upper terminal slot 11 each. The elastic point of contact bent by the part corresponding to the terminal activity hole 13 of the upper limit child's 12 end is formed. From the posterior wall of stomach of a case, an end is bent by the right angle at a projection and a list, and already forms a connection pin. The lower limit child 15 is entrapped in each Shimo terminal slot 14, and the elastic point of contact bent in terminal activity hole 16 part to which the lower limit child's 15 end is equivalent is formed. The end is already considering as the multi-type memory card connector characterized by for a projection list bending and forming a connection pin from a case posterior wall of stomach.

The design of claim 3 is set to a multi-type memory card connector according to claim 2. The posterior-wall-of-stomach upper part of said case 4 is extended back, and projection 18 is formed. The upper limit child 12 from the posterior-wall-of-stomach upper part A projection, A right angle bends at a list and form the connection pin of a field contact type, and from the posterior-wall-of-stomach lower part, the lower limit child 15 is bent by the right angle at a projection list, and forms an insertion-type connection pin. It is considering as the multi-type

memory card connector characterized by being arranged by 2 train methods which the upper limit child pin and the lower limit child pin separated.

In the multi-type memory card connector according to claim 2, top faces 19 and 23 are established in the part of the terminal activity holes 13 and 16 with which said upper limit child 12 and lower limit child 15 correspond, and the design of claim 4 is taken as the multi-type memory card connector characterized by the end of the upper limit child 12 and the lower limit child 15 being stopped by these top faces 19 and 23.

The design of claim 5 is taken as the multi-type memory card connector characterized by preparing the connection pin corresponding to the location corresponding to a lock switch of each memory card of the wall of said slot with an elastic switch in the multi-type memory card connector according to claim 1, 2, or 3.

The design of claim 6 is taken as the multi-type memory card connector to which at least ** combined with the class part of the pars basilaris ossis occipitalis of said slot by the incorrect insertion prevention crevice of a memory card is characterized by preparing a projection in the multi-type memory card connector according to claim 1.

[0008]

[The gestalt of implementation of a design]

In order to attain the above-mentioned purpose, the technique which this design adopts is as follows. The multi-type memory card connector of this design Have a case, and this case is made into integral construction and a slot is established in the front end of a case. The width of face of the part of the upper and lower sides of this slot differs, and at least two memory card slots are formed. The terminal slot by which the spacing array was carried out is established in the wall of a slot, the end of a terminal slot is in front opening or back opening of a case, a terminal activity hole is prepared in another edge of a terminal slot, and the location of this terminal activity hole is united with the location of the piece of a memory card metal. A metal terminal is inserted in each terminal Mizouchi, the part located in a part for the terminal activity pore of the end of a metal terminal carries out the gryposis, and it has elasticity in a list, and another edge of a metal terminal penetrates out of a case 4, and forms the connection pin.

[0009]

This case is made into a monolithic and it may be formed with plastics, among an above-mentioned technique, each terminal is pressed fit in each terminal Mizouchi, and the class terminal corresponding to the location where the upper and lower sides of a case differ, respectively is prepared based on the difference in the dimension specification of the memory card to apply, and it is connected [memory card / which is inserted] electrically, the upper limit of a terminal being used as an elastic point of contact.

[0010]

Said slot forms three memory card slots downward from a top among an above-mentioned technique. Among those, a secure digital memory card and a multimediacard share one card slot. The spacing array of the front terminal slot is carried out at the case low wall side inside, and a terminal activity hole is prepared in the pars basilaris ossis occipitalis of a front terminal slot. It is extended to the opening part of a front end fang furrow, and the upper terminal slot by which the spacing array was carried out, respectively, and a bottom terminal slot are prepared inside [wall surface] the upper and lower sides of the back end of a case. The terminal activity hole corresponding to the case side of the upper part of an upper terminal slot and the lower part of a bottom terminal slot is prepared in a list, an upper terminal slot and a bottom terminal slot are extended towards back, respectively, and it has opening on the back side attachment wall of a case at a list. A front end child is inserted in one front end each child Mizouchi, the end forms the elastic point of contact of a radii form in a part for a terminal activity pore, and an end already forms a projection connection pin from a front terminal slot. An upper limit child is inserted in one upper limit each child Mizouchi, the elastic point of contact bent by the part corresponding to the terminal activity hole of an upper limit child's end is formed, and from the posterior wall of stomach of a case, an end is bent by the right angle at a projection and a list, and already forms a connection pin. A lower limit child is inserted in each lower limit child Mizouchi, the elastic point of contact bent in a part for the terminal activity pore to which a

lower limit child's end corresponds is formed, and from a case posterior wall of stomach, an end is bent by the projection list and already forms a connection pin.

[0011]

As a technique for a pin gap to be too near and not form [separate a connection pin, and] manufacture problems, such as a short circuit The posterior-wall-of-stomach upper part of an above-mentioned case is extended back, and it considers as the letter of a projection. An upper limit child from the posterior-wall-of-stomach upper part A projection, A right angle bends at a list, the connection pin of a field contact type is formed, and a lower limit child is arranged by 2 train methods which were bent by the right angle at the projection list, and formed the insertion-type connection pin, and the upper limit child pin and the lower limit child pin separated from the posterior-wall-of-stomach lower part.

[0012]

A top face is established in the part of the terminal activity hole with which said upper limit child and lower limit child correspond among an above-mentioned technique, and the end of an upper limit child and a lower limit child is stopped by this top face.

The connection pin corresponding to the location corresponding to a lock switch of each memory card of the wall of said slot with an elastic switch is prepared among the above-mentioned technique.

A projection is prepared at least for ** combined with the class part of the pars basilaris ossis occipitalis of the above-mentioned slot by the incorrect insertion prevention crevice of a memory card.

[0013]

[Translation done.]

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EXAMPLE

[Example]

Example 1: Please refer to drawing 10 from drawing 1. The multi-type memory card connector of this design is equipped with a case 4, this case 4 is made into the integral construction formed with plastics, and the slot is established in the front end of this case 4. The width of face of the part of the upper and lower sides of this slot differs, three memory card slots are formed, and it turns it down the A slot 5, the B slot 6, and the C slot 7 from a top, respectively. Two or more front terminal slots 8 by which the spacing array was carried out are established in the low wall presence edge of a case 4, and the terminal activity hole 10 is established by the pars basilaris ossis occipitalis of the front terminal slot 8. The upper terminal slot 11 by which the spacing array was carried out, respectively, and the bottom terminal slot 14 are established in the internal surface of the upper and lower sides of the case 4 back end, and the terminal activity holes 13 and 16 corresponding to the case side of the upper part of the upper terminal slot 11 and the lower part of the bottom terminal slot 14 are formed in the list. A top face 19 is established in these terminal activity holes 13 and 16, the upper terminal slot 11 and the bottom terminal slot 14 are extended back, respectively, and it has opening on the back side attachment wall of a case 4 at a list. The elastic switch connection pin slot is established in the location corresponding to each memory card R/W control section of the both sides of the slot of a case 4, respectively.

[0014]

The front end child 9 is entrapped in each forward terminal slot 8, the end forms the elastic point of contact of a radii form in terminal activity hole 10 part, and the end already forms the projection and the connection pin from the front terminal slot 8. The upper limit child 12 is entrapped in each up terminal slot 11, the elastic point of contact bent by the part corresponding to the terminal activity hole 13 of the upper limit child's 12 end is formed, an end is bent by the right angle from case 4 posterior wall of stomach at a projection and a list, and the connection pin is already formed. the upper limit child 12 is used for connection of the SmartMedia (trademark) card 1, and, thereby, the upper limit child 12 divides him into two kinds of merits and demerits corresponding to the metal pin of two trains of this card — having — mutual — alienation — it is arranged. The lower limit child 15 is entrapped in each Shimo terminal slot 14, the part corresponding to the terminal activity hole 16 of the lower limit child's 15 end is bent, and an elastic point of contact is formed. An end is already bent by a projection and the list from case 4 posterior wall of stomach, a connection pin is formed, top faces 19 and 23 are formed in the part of the terminal activity holes 13 and 16 corresponding to the upper limit child 12 and the lower limit child 15, and the end of the upper limit child 12 and the lower limit child 15 is stopped by these top faces 19 and 23, respectively. The elastic switch connection pins 17 and 20 and the elastic contact segment 21 are inserted in, respectively, and two elastic switch connection pins 17 form the switch of a lot in Mizouchi of the both sides of a case 4, make him push the elastic piece corresponding to the time of memory card insertion, contact him at another connection pin, and, thereby, are made to close a switch.

[0015]

Among this example, the posterior-wall-of-stomach upper part of the above-mentioned case 4

is extended back, and is made into the letter of a projection. The above-mentioned upper limit child 12 is bent by the right angle from the posterior-wall-of-stomach upper part at a projection and a list, and the connection pin of a field contact type is formed. The above-mentioned lower limit child 15 is arranged by the method of two trains which the right angle bent at the projection and the list, the insertion-type connection pin was formed, and the upper limit child pin and the lower limit child pin separated from the posterior-wall-of-stomach lower part. By this The pin of a triplex row is formed corresponding to a different memory card, and the pin of the front end child 9 and the upper limit child 12 is made into the articulated structure of the piece type of contact, and the lower limit child's 15 pin is located inside an upper limit child pin, and let it be the articulated structure of an insertion type.

[0016]

According to the crevice of reverse insertion prevention of a memory card, the projection is prepared at least for ** in the class part of the pars basilaris ossis occipitalis of an above-mentioned slot.

[0017]

As shown in drawing 9 and drawing 10 , after the SmartMedia (trademark) card 1 was inserted in the A slot 5 of a case 4 and was positioned, The elastic point of contact of a metal side and the upper limit child 12 when this SmartMedia (trademark) card 1 is written contacts. The elastic switch connection pin 20 by which a side edge corresponds is contacted, it flows, the elastic contact segment 21 of case 4 top face and the annular metal of the SmartMedia (trademark) card 1 contact coincidence, and R/W is performed. Moreover, insertion of the memory stick card 3 and R/W are presented with the B slot 6 of a case 4, the R/W edge of the memory stick card 3 after insertion contacts the lower limit child's 15 elastic point of contact, and R/W is presented with it. Moreover, insertion of the secure digital card 2 or a multimediacard 22 and R/W are presented, and the front end child's 9 elastic point of contact contacts the R/W metal side of the secure digital card 2 or a multimediacard 22 at the time of insertion, and the side edge of the secure digital card 2 presses the elastic switch connection pin 17, and reading and the C slot 7 write by carrying out the contact flow of the R/W switch. When the incorrect write-in prevention switch of the secure digital card 2 writes in and it is in a prevention location, even if it dents the side edge of elastic switch connection pin 17 corresponding part and the secure digital card 2 is inserted at this time, an elastic switch connection pin is not open for free passage, and is in a write-in prevention condition.

[0018]

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the appearance indicator chart of various kinds of memory cards.

[Drawing 2] It is the structure indicator chart of the example of this design.

[Drawing 3] It is the exploded view of the example of this design.

[Drawing 4] It is a case indicator chart in drawing 3 .

[Drawing 5] It is the top view of drawing 4 .

[Drawing 6] It is the bottom view of drawing 4 .

[Drawing 7] It is the left side view of drawing 4 .

[Drawing 8] It is the expanded sectional view of the example of this design.

[Drawing 9] It is the perspective drawing at the time of various memory card insertion of the example of this design.

[Drawing 10] It is the bottom view of drawing 9 .

[Description of Notations]

- 1 SmartMedia (Trademark) Card
- 2 Secure Digital Memory Card
- 3 Memory Stick Card
- 4 Case
- 5 A Slot
- 6 B Slot
- 7 C Slot
- 8 Front Terminal Slot
- 9 Front End Child
- 10 Terminal Activity Hole
- 11 Upper Terminal Slot
- 12 Upper Limit Child
- 13 Terminal Activity Hole
- 14 Bottom Terminal Slot
- 15 Lower Limit Child
- 16 Terminal Activity Hole
- 17 Elastic Switch Connection Pin
- 18 Projection
- 19 Top Face
- 20 Elastic Switch Connection Pin
- 21 Elastic Contact Segment
- 22 Multimediacard
- 23 Top Face

[Translation done.]